

Remarks

I. Introduction

Claims 4 to 7 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Rejection of Claims 4 to 7 Under 35 U.S.C. 102(b)

Claims 4 to 7 were rejected under 35 U.S.C. § 102(b) as unpatentable over U.S. Patent No. 5,137,495 ("Luebke"). Applicants respectfully submit that Luebke does not anticipate claims 4 to 7 for the following reasons.

Claim 4 relates to a drive bearing for printing machines for coupling a rotating tool to a drive shaft of a servomotor. Claim 4 recites that the drive bearing includes an element located at an interface between the rotating tool and the drive shaft on a tool axis. Claim 4 recites that the element has an axially projecting coupling cone that engages a counter recess of the drive shaft. Claim 4 has been amended herein without prejudice to recite that the cone is selectively tightenable so as to be releasably held in the recess by frictional engagement of the surface of the cone with the surface of the recess. Support for this amendment can be found, for instance, at page 4, lines 9 to 13 of the Specification, which states that "[t]he coupling occurs by frictional engagement between the surfaces of cone 20 and cone shaped recess 24 in that coupling cone 20 is tightened by means of a tightening rod 26 (26') against the drive shaft (for example, by a tightening through a threaded drive)." Emphasis added. Claim 4 also recites that an angular position of the element is adjustable, and that the element is centered and configured to be secured to prevent rotation.

Claim 7 relates to a drive bearing for printing machines for coupling a rotating tool to a drive shaft of a servomotor. Claim 7 recites that the drive bearing includes an element located at an interface between the rotating tool and the drive shaft on a tool axis. Claim 7 recites that the element has an axially projecting coupling cone that engages a counter recess of the drive shaft. Claim 7 also recites that the drive bearing includes the cone tapering down in the direction towards the drive shaft and being releasably held in the recess by frictional engagement. Claim 7 has been amended herein without prejudice to recite that the cone is selectively tightenable so as to be releasably held in the recess by frictional engagement of the surface of the cone with the surface of the recess. Support for this amendment can be found, for instance, as set forth above. Claim 7 also recites that the drive bearing includes an undercut on an inner bore of the coupling cone of the element. In addition, claim 7 recites that the drive bearing includes a tensioning rod having a spreading head, the rod configured to extend through the drive shaft of the servomotor so that the cone frictionally engages the counter recess in the drive shaft so as to provide a releasable holding

of the coupling cone. Furthermore, claim 7 recites that an angular position of the element is adjustable, the element being centered and configured to be secured to prevent rotation.

Luebke purports to relate to a shaft coupling allowing for an offset of axes, that comprises radially displaceable members and preferably serves to couple a journal of a printing cylinder to a drive shaft and comprises positively interengaging coupling parts, which are connected to the respective shafts to be coupled, and an assembly for forcing the coupling parts against each other. Luebke states that a radially displaceable outer coupling disk of the shaft coupling is connected to a member which is formed with a central bore, an axially displaceable bolt extends into and is centered in the bore and when the shaft coupling is disengaged the bolt will be urged by a spring into a central bore or aperture of the drive shaft or of a member which is connected to the drive shaft.

Applicant respectfully maintains that claims 4 and 7 are not anticipated by Luebke for at least the reason that Luebke does not disclose or even suggest all of the limitations recited in claims 4 and 7. For example, Luebke does not disclose or even suggest an element having an axially projecting coupling cone that engages a counter recess of the drive shaft and that is selectively tightenable so as to be releasably held in the recess by frictional engagement of the surface of the cone with the surface of the recess, as recited in claim 4. Furthermore, Luebke does not disclose or even suggest an element having an axially projecting coupling cone that engages a counter recess of the drive shaft, the cone tapering down in the direction towards the drive shaft and being selectively tightenable so as to be releasably held in the recess by frictional engagement of the surface of the cone with the surface of the recess, as recited in claim 7. The Specification states at page 4, lines 2 to 5 that “[e]ach tool is provided with connecting cone 20 and is inserted into cone shaped recesses 24 of drive shafts 21 and precisely centered therein.” The Specification further states at page 4, lines 9 to 11 that “[t]he coupling occurs by frictional engagement between the surfaces of cone 20 and cone shaped recess 24 ...”.

Luebke describes “[a] coupling part 4 ... compris[ing] a coupling extension 6, which is trapezoidal in cross-section.” Column 3, lines 5 to 8, emphasis added. Luebke also describes that “[t]he coupling extension 6 which is trapezoidal in cross-section protrudes into a mating recess formed in a receiving head 10.” Column 3, lines 10-13. Thus, as an initial matter, the coupling extension 6, which the Examiner identifies as being a coupling cone, is in fact not conical but trapezoidal. Thus, contrary to the Examiner's contention, the coupling extension 6 is not a coupling cone. The Final Office Action states that “the cross-section of element 6 shown in Fig.1 clearly defines a cone [and a] cone is not required to be circular.” Final Office Action at page 3. Applicant respectfully disagrees and maintains that merely because Figure 1 illustrates the coupling extension 6 of Luebke as having two flat tapered surfaces does not make the coupling extension 6 conical in shape, particularly in view of Figure 4 and the above-noted textual description of the coupling extension 6, which clearly

illustrate and describe the coupling extension 6 as being *trapezoidal* in shape. The two flat tapered surfaces shown in Figure 1 provide the extension coupling 6 with its trapezoidal shape, and a shape that is specifically stated as being trapezoidal can not be conical in shape.

Furthermore, Luebke describes that “[the coupling extension 6] is succeeded by a cylindrical guide pin 7 [having] a cylindrical extension 8, which is provided at its free end with an outwardly protruding flange 9.” Column 3, lines 8-10. Luebke also describes that “the spring 22 always urges the rod 23 in the direction which is indicated by the arrow A so that the drawhead 24 which is connected to the left-hand end of the rod 23, by means of the gripping jaws 25 firmly pulls the coupling part 4 against the receiving head 10.” Column 3, lines 32-37. Thus, in Luebke it is the spring 22, and the gripping of the outwardly protruding flange 9 by the gripping jaws 25, that holds the coupling extension 6 relative to the tapering recess of the mating head 10, not friction. Furthermore, there is no disclosure or suggestion in Luebke of a frictional engagement of the surface of coupling extension 6 with the surface of the recess. On the contrary, as set forth above, the coupling extension 6 is held relative to the tapering recess of the mating head 10 by the spring 22 and by the gripping of the outwardly protruding flange 9 by the gripping jaws 25, and thus there is no need for such a holding to be accomplished by frictional engagement of the surface of coupling extension 6 with the surface of the recess. This is further evidence by Luebke’s statement that “[b]y the gripping jaws, the interlocking coupling parts are forced against each other so that an effective and backlash-free coupling of the shafts to be coupled will be ensured.” Column 2, lines 21-24.

Still further, Luebke does not disclose or suggest that the coupling cone is selectively tightenable so as to be releasably held in the recess. The Specification provides at page 4, lines 15-19 that “[t]ightening rod 26 . . . engages thereto a central undercut bore 27 of the cone 20 where a spreading head is located which can be extended to such an extent that the cone 20 is tightened.” In contrast, the coupling extension 6 of Luebke is not tightenable but rather is solid and is not capable of, e.g., expanding, in order to be tightened.

To anticipate a claim, each and every element as set forth in the claim must be found in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). That is, the prior art must describe the elements arranged as required by the claims. In re Bond, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). As more fully set forth above, it is respectfully submitted that Luebke does not disclose, or even suggest, an element having an axially projecting coupling cone that engages a counter recess of the drive shaft and that is selectively tightenable so as to be releasably held in the recess by frictional engagement of the surface of the cone with the surface of the recess as recited in claim 4, nor an element

having an axially projecting coupling cone that engages a counter recess of the drive shaft, the cone tapering down in the direction towards the drive shaft and being selectively tightenable so as to be releasably held in the recess by frictional engagement of the surface of the cone with the surface of the recess as recited in claim 7. It is therefore respectfully submitted that Luebke does not anticipate claims 4 and 7.

In summary, it is respectfully submitted that Luebke does not anticipate claims 4 and 7, and Applicant respectfully requests that the rejection of these claims be withdrawn. As for claims 5 and 6, which depend from claim 4 and therefore include all of the limitations of claim 4, it is respectfully submitted that Luebke does not anticipate these dependent claims for at least the same reasons given above in support of the patentability of claim 4, and Applicant respectfully requests that the rejection of these claims be withdrawn also.

III. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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